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ABSTRACT

The 14 City Technology Colleges (CTCs) opened so far in Great Britain are achieving an average attendance rate of between 90 percent and 97 percent. This high level of attendance has been assisted by the use of electronic registration (role taking) devices, including smart cards, portable computers, and optical readers. This report compares electronic registration systems available as a useful guide to schools considering adopting one of the systems. In addition to reducing truancy by monitoring general attendance and attendance at specific classes, electronic registration can save teacher time and make it easier to report student absences. The main methods of data collection are the traditional paper register (notebook), the Optical Mark Reader (preprinted forms and optical conversion into computer data), the swipe card (magnetic or bar codes), and the portable computer. Information about the use of these methods was collected through a survey of the CTCs and their affiliated schools (23 institutions). From these responses, some principles are derived for selecting a registration system. These include knowing what is needed, seeing the system in operation and checking the satisfaction of other users, planning carefully for implementation, and introducing the system carefully. Appendixes list suppliers and systems, give some example documentation, and discuss the legal requirements for attendance. (SLD)

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Using technology to combat truancy

Gerald Haigh

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Using technology to combat truancy

Gerald Haigh

Number 10 in a series of CTC Trust publications
General Editor Dr Helen Sharp

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This series of publications is intended to disseminate within the educational arena in this country and abroad, the information, expertise and experience emerging from CTCs. CTCs are independent colleges; within national guidelines each is free to develop the CTC initiative in its own way. The CTC Trust respects this independence and wishes to state that its publications do not necessarily reflect the policy or practice of the movement as a whole.

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Preface

The problem of truancy in British schools is serious. The recently published report by Denis O'Keefe on *Truancy in English Secondary Schools* indicates that as many as one third of students in Years 10 and 11 regularly play truant, with the rate of unauthorized absence markedly higher in Year 11. There have been sharp increases recently in both blanket truancy and 'bunking off' indicating that students engage in both whole day absences and cutting specific lessons. Anecdotal evidence indicates that in some schools in inner city areas *average* attendance can be as low as 70% with up to 30% of all students absent on any one day.

Schools have a statutory duty to take attendance at least once a day, but until recently there was no requirement to publish attendance figures. Moreover, schools have usually only published so-called unauthorized absence figures (excluding sickness and other authorized absence). Since the definition of unauthorized absence varies by school, information on average attendance is a more reliable indicator of truancy.

The 14 City Technology Colleges opened so far are achieving an average attendance rate of between 90% and 97% with most CTCs averaging 95% attendance. This high level of attendance has been assisted by the use of electronic registration devices including 'smart cards', portable computers and optical readers.

This excellent report by Gerald Haigh compares the various electronic registration systems available and will provide a useful guide to schools considering adopting one of the systems. In addition to helping to reduce truancy by monitoring both general attendance and attendance at specific classes, electronic registration can save administrative time for teachers (approximately 20 minutes a day per teacher) as well as making it considerably easier to report absence. Some schools also use their system to generate letters to parents on the same day, reporting truancy.

The CTC Trust hopes that the information provided will be a valuable tool to all educators concerned to solve this serious problem.

Sir Cyril Taylor
Chairman, CTC Trust

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All the CTCs and affiliated schools approached for help with this paper were welcoming and unfailingly helpful. These are mentioned in the body of the paper, and I am grateful to them.

I would also like to register my thanks to the various suppliers listed in Appendix A, who have informed my thinking over the past few years.

Gerald Haigh

Glossary

The following abbreviations are used in this document:

CARRA	Computer Assisted Registration Recording and Analysis (a bar-coded swipe card system);
DFE	Department for Education;
EARS	Electronic Attendance Registration System (a portable computer system with radio link to main computer);
ERAS	Electronic Registration and Attendance System (a magnetic swipe card system);
ERS	Electronic Reading Systems Ltd;
EWO	Education Welfare Officer (some authorities have ESW: Education Social Worker);
GM	Grant-maintained;
OMR	Optical Mark Reader;
SIMS	Schools Integrated Management System;
SIRS	Schools Integrated Registration System.

Summary

Many schools have been looking at the use of electronic registration systems as an alternative to the traditional paper register. The main alternatives are the Optical Mark Reader (OMR), swipe cards and portable computers. The OMR system is used in some schools for marking assessment, and therefore may provide a quick and easy alternative. Systems which are based on a 'swipe card', a plastic card similar in design to a credit or cash card, can be used for other purposes including payments for meals, library use, access to restricted rooms, and so on. The portable computer system requires every form tutor to have a laptop computer.

This paper looks at the issues which schools considering a move from the traditional paper register should consider, and discusses the alternatives. It concludes with some useful principles for any school considering a change from the traditional register. The following are the main points contained in the report.

- The traditional paper register has advantages and disadvantages:
  - The circles and strokes form distinctive patterns on the page which can be recognized easily, and the register is large but light;
  - Marking the register takes time (about 20 minutes per tutor per day), errors are difficult to identify, it is difficult to change the class list neatly, and extracting relevant data from the registers is time-consuming;
- The need to find alternatives is driven by a number of factors including an awareness of efficient management principles, the requirement from the Department for Education for performance indicators, an awareness of the technology and its capabilities, concerns about low attendance and the possibility of recording attendance more often than twice a day;
- The process of 'registration' includes three elements: data collection, data processing and data presentation, each of which could be serviced by a different method or system;
- The storage and presentation of information in different forms is an ideal task for a computer-based database system; every computerized registration system therefore contains a database for storing and reproducing information;
- The main methods of data collection are the traditional register, the Optical Mark Reader (OMR), the 'swipe card' and the portable computer.
  - The traditional register could be used to collect attendance and punctuality data, which would then be entered by a keyboard operator for computer-based processing and presentation;

- The OMR is a device which reads marks on a pre-printed form (see Appendix B), and converts them into computer data. With this system, tutors are still required to mark sheets of paper manually. Many schools currently use the OMR for processing test and assessment data;
- Swipe cards are about the size of a credit card; students (and staff) have one each. The cards have either a magnetic strip or a bar code on the back of them which is coded with information. Card readers can be located anywhere in the school, allowing 'registration' to take place for every lesson, if required. Additional uses of the cards include meal payments, library use, access to secure rooms and transport vouchers;
- For the portable computer system, each tutor carries a laptop computer with the class register pre-loaded. The register can then be marked electronically. The information can be transferred to the main computer for storage and processing by taking the portables to the computer, using hard-wired connection points around the school, or via radio links;
- Another alternative, in use at one CTC, is a paper register printed with bar codes, read by a light pen, similar to some cash register systems in shops;
- Some CTCs and schools are developing their own tailor-made systems;

- The cost of systems varies depending on the specific installation, but broadly, the OMR is the cheapest, swipe cards are mid-range, and the portable computers are the most expensive;
- Obtaining the technology is only part of the story. Many management and administrative issues must be faced. The most important point is to consider the needs of the individual school;
- The following fundamental points are continually made by those who have studied the area:
  - Do not be seduced by the technology. Look for a solution which matches *your* situation;
  - Technology improves the quality and management of information. If the school's management system can act quickly and effectively on that information, then attendance and punctuality can be improved.

The report's appendices include a list of suppliers for the systems discussed, example forms from computerized systems and information regarding the legal requirement for attendance reporting by schools.

I. Introduction

This paper looks at the use of computerized registration in schools. It is based on contact with schools by visit, questionnaire and telephone conversation, and to some extent on information from system suppliers.

All CTCs and affiliated schools were asked to complete a short questionnaire about their registration policy. There was a very high rate of return, and most expressed willingness to talk further to the author; information from the questionnaire survey is presented in Table 1.

As a result of this, the author visited four CTCs and spoke to ten other CTCs and affiliated schools at length on the telephone. The author also called upon experience gained in visits to several schools outside the CTC sector. This was particularly valuable in observing those systems which are not in use in CTCs. He also visited or spoke on the telephone to numerous advisers and consultants in the field of computerized administration and registration, and had contact with most of the suppliers whose products are in use in schools.

While the author considers the advantages and disadvantages of each type of system, in doing so he is passing on the experience of users and is not in a position to make his own recommendations. He strongly emphasizes the basic point that each school's needs are unique, and that it seems unlikely that any one system will ever be suitable for every institution.

II. The existing system

In one of Rowan Atkinson's early stage routines he simply stood calling out names. There was no introduction; no explanation. Nor was any needed, for so firmly is the school registration routine embedded in the memory of every adult that everyone immediately recognized what he was doing.

Throughout the history of day-school education, attendance has been a significant performance indicator both for the individual pupil and for the school. Accuracy, therefore, has always been important, and the paper register has evolved into an efficient and concise tool – cheap, large in format and difficult to lose, yet not too unwieldy to be carried around the school.

Each double page shows the attendance record of the class over several weeks. The circles and strokes are distinctive in shape and colour, and it

Table 1. *Registration systems in use in a selection of CTCs and affiliated schools*

College or School	Current system	Comments
ADT College	Paper	EARS and tailor-made extension under consideration
Applemore Technology School	Paper	Cost of technology considered too high
Bacon's College	Paper	SIRS operational from September 1993
Battersea Technology College	Paper	EARS and swipe cards under consideration
Budmouth GM School	Paper	OMR being pilotted
Brooke College	Swipe cards	The cards are also used to pay for meals and obtain books from library
Christ Church High School	Paper	SIMS registration using OMR under consideration
Cirencester Deer Park School	SIMS & OMR	
Convent of Jesus & Mary High School	Paper	EARS under consideration
Deacon's School	SIMS & OMR	
Dixons Bradford CTC	Paper	SIMS to be adopted. Swipe cards are a long term goal
Djanogly CTC	Paper	Writing tailor-made system – pilot in progress
Exeter St Thomas High School	SIMS & OMR	
Haberdashers' Aske's Hatcham College	Paper	EARS wiring installed; pilot exercise planned for the Autumn term
Harris CTC	AWOL-attend	
John Kelly Girls School	SIMS & OMR	
Kingshurst CTC	Tailor-made software package	
Leigh CTC	OMR	Swipe card to replace OMR system in September 1993
Moseley Park GM School	SIMS and OMR	Exploring the use of swipe cards for meals & registration
Saintbridge Technology School	Paper	Interested in investigating swipe cards and OMR
St George's GM School	Paper	EARS and bar code readers under consideration
Thomas Telford School	ERAS	50 readers, 8 collection points
William Temple High School	Paper	SIMS under consideration

is easy to see at a glance which pupils are poor attendees. Significant patterns, such as a pupil's absence on the same afternoon each week, or the simultaneous absence of two pupils, are very visible on the page.

Unsurprisingly, this highly practical document has continued virtually unchanged for most of this century. Inevitably, however, the pressures of changing school needs have begun to find weaknesses.

Disadvantages of the paper register

These vary in importance, and some which are significant to one institution may not be so crucial to another. Thus:

- *Speed* It takes time to mark a paper register by hand, calling out each pupil's name. On average, teachers involved in registration (at least half in a typical school) spend 20 minutes a day. In order to gain this time, it is necessary to put space for it on the timetable twice a day. The time taken to walk to and from registration is arguably disproportionate to the size of the task.

  However, many schools see registration as quality tutor–pupil interaction. This point will recur as the discussion proceeds;

- *Accuracy* Teachers are human. On any one day, a teacher may mark the register hurriedly, or in less than controlled circumstances, or may simply not be concentrating on the job. Errors, once made, may not be picked up for some time, or may never be picked up at all.

  However, many schools would say that this is not a fault of the registration system, but of the way that the school is managed;

- *Inflexibility* The class list is entered by hand in the register at the beginning of the school year. Alterations thereafter are made by crossing out leavers and adding newcomers. Few, if any, registers survive unaltered through the year, and those many schools with shifting populations find it difficult to keep the registers accurate and easy to read;

- *Data handling* This, for many institutions, is the biggest difficulty with the manual register. The pile of class registers in the school office contains a wealth of data and important performance indicators – attendance figures for individuals, for year groups, for the whole school. The difficulty is to get the data out.

  Traditionally, teachers have done much of this work, adding up daily, weekly and termly figures and calculating percentages. Even where the whole job is done in the school office, it takes time and involves constant referral back to the teacher for explanations. Inevitably, large

amounts of potentially useful data remain in the registers, inaccessible because of the time which would be needed to extract the figures.

III. Looking for alternatives

The search for alternative forms of registration is driven by many factors, including:

- An increased awareness of efficient management principles. Heads and Governors are aware that adding up register figures is not the best use of a highly qualified teacher's time;
- The need for performance indicators. The Department for Education requires schools to keep, and publish, accurate data on attendance, distinguishing between authorized and unauthorized absence. Patterns of truancy can best be detected through the analysis of accurate attendance data;
- Awareness of technology. Schools have both a duty and a desire to introduce young people to the practical application of computer technology. As a result, Heads and Governors often do not wish to be seen to be harbouring a system which, although well-tried, does not show a technology-aware image to the world outside;
- The possibility of increased timetabling flexibility and the saving of time;
- The motivation of pupils by recognizing their status as independent learners;
- The possibility of tracking 'internal truancy' by recording attendance more frequently than twice a day.

IV. Computer technology and the school register

From what has already been said, it can be seen that the administrative system which we call 'registration' contains three separate elements. These are:

1. *Collecting the data* By whatever means, the attendance or absence of each pupil has to be recorded. This usually happens in, or near the classroom;
2. *Processing the data* The collected information has to be stored and then used to produce whatever statistics are needed by the school, the parents, the governors, or the government. This usually happens in the school office;

3. *Reporting the data* This also usually happens in the school office. The necessary figures have to be presented in an intelligible and readable form to those who need them.

It is important to realize that these three elements, while they are often grouped together, and indeed marketed together as a package, are to some extent separate. Thus, in principle, three schools could share exactly the same data processing system and yet be collecting the registration data in three entirely different ways. Similarly presenting the data involves some separate decisions – about the design of forms, for example, and the choice of printer.

Ideally, a school would be able to choose the different elements separately using one data collection method and a different data processing package, and link them together. In practice, unless a school designs its own bespoke system, it is not easy to pick and choose like this, because suppliers want to sell complete integrated packages. All the same, schools may find it helpful to keep this separation of the elements in mind when they are looking at systems.

Data processing and presentation

The storage of attendance data, and its reproduction in various forms, is exactly the sort of task for which computer database software was originally designed.

Thus, at the heart of every computerized registration system is a database which usually is located in a computer in the school office. The database holds the name of every pupil in the school. It also holds additional information such as home address, age, tutor group and many other headings which are of use. Day by day, information about each pupil's attendance is added. Thus there builds up a huge mass of information which the software will quickly explore and sort on request. In principle, a powerful database will easily store, and present in any conceivable form, all the attendance data that a school is ever likely to need.

What distinguishes databases from each other is not their basic effectiveness, for reputable software houses produce reliable products, but the way that they have been tailored for schools, and the ease with which they can be used. It follows that schools looking at systems should be prepared to make comparisons in these areas.

Data presentation is a matter of the production of neat and readable printed reports. These, too, should be capable of being tailored to school use, with appropriate use of words like 'tutor', 'session' and so on, and with the

name of the school and of the pupil incorporated where necessary. Graphical presentation can also be useful.

An attendance database provides a number of functions. For example, it will:

- Work out the individual attendance record of a pupil for the past term, present it in figures, as a simple graph, or both and print it out in a form designed to be incorporated in the Record of Achievement file;
- Prepare and quickly print, or make available for network display, a list of the day's absentees so that teachers can check absence from lessons;
- Prepare and print for the Head and Governors a wide range of percentages and comparisons – between year groups, between tutor groups, between one school term or school year and another. Graphs will be available to help make points quickly and effectively;
- Prepare and quickly print, ready for an interview about truancy with a parent, the record of a pupil's attendance over the past two weeks;
- Provide for a parent evidence of unpunctuality, provided, of course, that the information on early or late arrival is being entered into the system;
- 'Nag', by constantly flagging up pupils whose absence is unexplained;
- Detect pupils with good attendance and punctuality records (as defined by the schools) and automatically print certificates;
- In a school which works with an EWO (Education Welfare Officer), provide whatever summaries the Officer needs.

Note that these are examples. Any system will provide a huge amount of such information. Schools looking at systems should perhaps select several tasks and ask to see the system carrying them out, paying careful attention to how easy and quick it is to extract the information, and to the quality of the finished product. But remember that the quality of the printer is important in determining the final appearance of the document.

Virtually all secondary schools have a computerized administration system already. Frequently this will include a database containing pupil and staff details. Any registration system ought to be capable of making links to this. Some registration systems, SIMS (Schools Integrated Management System) for example, are actually modules of a bigger system. In any case it ought to be possible to take the list of pupils from the main administrative system without having to key them in again. A good guiding principle for all schools is that once a pupil's name is keyed in on first entry to the school, it should never be necessary to type it again.

Data collection

This is where the really important differences between systems are to be found, and where crucial and costly choices have to be made. The task is to record a pupil's attendance and, if possible, punctuality so that the information can be stored in the database.

These are the main methods possible :

1. Traditional register;
2. Optical Mark Reader (OMR);
3. Swipe card;
4. Portable computer.

An annotated list of the main suppliers is in Appendix A. This is an ever-changing area, however, with new suppliers entering the market all the time.

Traditional register

In theory, there is no reason why the traditional register should not still be used for data collection, even where the core of the operation is computerized. It would be necessary for a keyboard operator to gather together all the registers and type the data from them into the database, using a system of codes. If the school already possessed a good database, this could be a relatively cheap system, even taking into account the cost of a keyboard operator. In practice it would be slow and very prone to error. it is included here simply to underline the fact that the data collection and the data processing elements really are separate.

Optical Mark Reader (OMR)

This is in use in many schools, including some Primary schools, in the local authority and grant maintained sectors.

An OMR is a device which detects pencil or pen marks on a specially designed A4 form and converts them into computer data. Each tutor has an OMR form for that day's register, with the names of the pupils already printed. He or she marks this register in the conventional way, but instead of putting in circles and strokes, she or he makes marks on the OMR form in appropriate slots (see Appendix B).

After registration, the form goes to the school office where, with all the other forms from tutor groups, it is fed through the OMR and the OMR feeds the data to the computer for inclusion in the attendance database.

Some schools have rejected OMR registration because it looks, on the face of it, like the traditional register system; the tutor still marks a register by hand. In fact, though, it has a big advantage over the manual register because the data is transferred easily and quickly into the computer system by the OMR.

The attraction to many schools lies in the fact that they already possess one or more OMRs which are used extensively for processing test and assessment data. If, in addition, they are already SIMS users, and can therefore easily add the SIMS Registration Module (or if they are in the equivalent position with another administration system) then OMR registration becomes quite cheap to install. This is the route which has very often led to schools using it. One kind of report available from an OMR-based system is in Appendix B.

Apart from the fact that the OMR is still a manual system at classroom level, one problem which schools have met has been to do with handling the forms. Some have found teachers slow to adapt to the need for precision in placing the marks on the form. Then, pre-printed OMR forms have to be distributed to tutors to be used, and taken back to a central point to be read by the machine. The forms have to be handled carefully, as creased or damaged ones will be rejected by the reader. In a big school on a scattered site, this can be difficult. If there are to be frequent lesson registrations as well as the main session registrations, the logistics become very challenging. St. George's School, Sleaford abandoned the system after a six week trial. They decided that it did not offer any significant advantages over the paper system, and are now looking at more sophisticated alternatives.

This is not to say that the difficulties cannot be managed. Stoke Newington School, a comprehensive in North London, uses an OMR system from Johnson and Pinnock for internal truancy control, with registration every lesson. The attitude there is that the system will work if the management systems, and the determination, are there to support it.

Another satisfied user of OMR registration is Deer Park School in Cirencester, which has developed a system of substantial transparent folders for holding and transporting the OMR forms. OMR registration is also successfully used at St. Thomas High School in Exeter. Both Deer Park and St. Thomas have the SIMS administration system. St. Thomas has also been using OMR for some years for assessment.

These examples show clearly that a combination of familiarity with the basic technology, good management of the flow of paper and a well-staffed

school office can make OMR registration a satisfactory and economical solution.

Swipe cards

In schools which use these systems, each pupil carries his or her own personal card, which is about the size of a credit card. On arrival, and at any other time determined by the school he or she 'swipes' by passing the card through a reader on the wall; just as a shop assistant might run a credit card through a reader. The reader records the 'swipe' and adds the name of the pupil and the time to the database in the central computer. So that the computer is not overwhelmed, causing delays at the swipe points, there has to be the capability of storing data either at the swipe point or in an intermediate location, until it is transferred to the computer.

A pupil who has not swiped is absent. If there are enough swipe points, pupils can be asked to swipe every lesson, or at random spot checks, and the software will then show up internal truancy.

There are two kinds of swipe card. Magnetic cards have a magnetic strip, like the strip on a bank card, which is programmed with pupil information. Bar coded cards have the same information in a visible bar code.

Many schools are now using swipe cards. The ERAS (Electronic Registration and Attendance System) magnetic card system was one of the first to be installed in a school, the Real World Services' CARRA (Computer Assisted Registration Recording and Analysis) bar-coded card system has also now been in school use for nearly three years. Numerous other suppliers are entering the market. Sample reports from swipe card systems are in Appendix B.

To watch pupils using a swipe card system is almost to watch a non-event. At Thomas Telford School, for example, pupils arrive between 7.45am and 8.20am, hang up their coats, swipe on a nearby reader – there are dozens of them around the school – and go to work, all without breaking off their conversations with their friends.

Many schools have investigated swipe card systems. These seem to be the main issues that come up in discussion.

- *Bar code or magnetic?* The bar-coded cards can be produced in school on a laser printer for very little cost from the system's software. Magnetic cards have to be bought from the supplier, although reasonable deals are usually available. However, systems differ in other ways than just the type of card, so schools must look carefully at the whole picture;

- *What else will the card do?* At Brooke College, the pupils use their cards in a cashless cafeteria. Leigh CTC is looking at using cards for access to restricted areas (this is a very common industrial application). A bar code can be printed on the reverse of a magnetic card, making it usable as a library card. This is done at Brooke College and at Thomas Telford School.

  The possibility arises of the card being a complete 'campus card', used for registration, access to equipment or rooms, cashless purchases, library, transport vouchers, and so on;

- *A photograph on the card?* A photograph can help with security. Brooke College has the equipment to produce its own, and produces a good-looking laminated card with a photograph. Schools agree that a good quality card is better value than a cheap-looking product: students appreciate it and take better care of it. Not all schools agree about the photograph, though. Thomas Telford School had photographs on the cards originally, but is phasing them out. This is because when cards were lost, the school depended on pupils providing their own photographs for the replacements, and there were problems about uniformity. The photograph also made the card thicker and more susceptible to being damaged in the card reader;

- *Lost cards?* Most schools report a low loss rate. Much more common is a forgotten card; about 2% a day seems typical, and looks manageable. Schools devise their own solutions and some systems allow for the issue of a temporary card. The equipment used at Brooke College, for example, allows a temporary card to be printed quickly and efficiently.

  Some schools, though, prefer to get a student through the day manually, considering it not worth making a temporary card. This is achieved by keying in the student's code at the central computer. A bar code system will make a temporary card as easily and quickly as it will make a permanent one.

  At Thomas Telford School, pupils used to carry their cards on their jackets like the internal identification cards commonly seen in business and industry. This was not practical, and they are now carried on chains round the neck. It looks better than it sounds, and pupils interviewed are comfortable with the arrangement. In fact all pupil swipe-card users appear to be entirely happy with the system. The doubts and questions invariably come from adults;

- *Deliberate misuse?* Heads resent this being the first question they are asked by visitors. One answer is that schools usually have a good idea in advance whether the system will work for them. Several Heads expressed the view that they liked the look of the swipe card system but, "It just won't work with our pupils".

Schools which have installed swipe cards find that fraudulent use, i.e. one pupil swiping in another, is rare. At the same time, it is important to bear in mind that the swipe action records only that the card is present. Consequently, various safeguards are used. At Brooke College, a senior member of staff keeps a low-key eye on the morning 'swipe-in'. At Thomas Telford School, there are two 'supervised swipes' in the classroom each day. Another school has only two swipe points which are overlooked discreetly by the school office so that pupils never know whether anyone is watching. General staff vigilance helps, and photographs on the cards are useful when staff are not sure of all pupil names. The use of cards for other purposes, the cafeteria for example, makes them more valuable, and means that students look after them more carefully.

Schools need to be fully aware that the keeping of accurate attendance records is a legal requirement (see Appendix C). By installing swipe cards they are, effectively, passing some control out of the hands of staff. This means that they must be sure of their safeguards and be able to demonstrate them.

- *Staff swiping?* Schools using swipe cards usually issue cards to staff as well. This is partly because the school needs a routine record of staff attendance and partly to show support for pupils. In some schools the staff swipe is a time marker – pupils who swipe into a lesson after the teacher are deemed to be late.

- *Bottlenecks at the swipe points?* Where there are enough points, the issue does not arise, but having many points can be expensive. The cost of individual points varies a great deal, and is an important issue to address when considering systems (the potential costs involved are addressed below).

  Even where there are only a few points, pupils are remarkably quick. Blackpool Sixth Form College has students swipe into assembly through three points (they have to show attendance at one assembly a week). The Principal pointed out that it is the adults who get into muddles, putting cards in upside down, or dropping them. Pupils can swipe without breaking stride.

Portable computer

In this system, the form tutor carries a small computer which has his or her group's register pre-loaded. The tutor calls up the register on the screen and 'marks' it in the conventional way, using codes for various kinds of absence. This still leaves the problem of transferring the data to the database in the central computer. It would be entirely possible to carry the laptop physically to the office to do this, or there might be hard-wired docking points around the school. The ERS (Electronic Reading Systems) *Keylog* system uses portable data collection computers which are taken to

the main computer and put into a 'cradle' (a metal box which effects connection to the main computer, thus dispensing with the need for multiple cables). Djanogly CTC is writing an in-house system based on a combination of network machines and portable data collection units.

A further possibility, used by some industrial data collection devices, is to transfer the data from the small computer to the main computer by radio link. EARS (Electronic Attendance Registration System), developed for schools by Bromcom Computers, does this. The tutor marks the register, then simple presses a key to transmit the data. This is picked up at a transceiver nearby which passes the signal on.

This system is attracting a great deal of interest from those schools which want a fully computerized solution but are unwilling to relinquish tutor control of the process.

David Durban of ADT College, who is considering EARS, said, "I'm rejecting anything that doesn't involve children sitting in front of their form tutor at least once a day". An aspect of EARS which particularly interests Heads is its potential for two-way communication. Not only can administrative information be passed both ways, but it becomes possible for teachers to be paged with messages which will appear on the screen of the small computer. Fully developed, this could be a valuable administrative tool for those schools which are currently struggling with pigeon-hole systems or the intrusive loudspeaker. "We foresee having everyone in the college linked to everyone else" said the Principal of Administration and Finance at Haberdashers' Aske's Hatcham College. The main disadvantage of EARS is probably its cost, which looks significantly greater than other systems. This is because of the cost of equipping each tutor with a folder containing both the laptop and the radio equipment (the question of costs is discussed below).

Other systems

The systems described above form the main strands of development at the time of writing. Other systems are sub-groups of the main ones. Thus, for example, AWOL-attend from Nord Education, the suppliers of the *Script* school administration system, uses a paper register with bar codes read by a light pen. The system, which is in use at Harris CTC, prints a register on which each pupil's registration number is bar coded. The teacher marks the register as normal, and office staff read the bar codes of absent pupils with a light pen. One advantage of this system is that the computer operator need only read the bar codes of pupils who are absent. The system 'knows' that all the other pupils are therefore present.

Another system, developed for Kingshurst CTC, uses the fact that every tutorial room has a networked PC. This makes it easy to have the whole registration system on the staff network. The tutor calls up the register on the screen and 'marks' it. There is also, obviously, the possibility of calling up registers during the day to check on lesson attendance. A school which has a very complete network, or is within reach of having one, might well find a solution like this to be cost-effective compared with buying in an entirely separate set of technology.

Costs

It needs to be emphasized that all cost estimates must be approximate because there are so many variables. A supplier may or may not include training in the total cost; another may or may not include the 'base' computer. There may be wiring costs which will undoubtedly vary widely from school to school. The only answer is to ask detailed questions of both the suppliers and the user schools. However, it is possible to provide some approximations.

- *Cheapest* OMR is almost always going to be the cheapest option, and this may outweigh the disadvantages for some schools. Even where no software or hardware is already in place, the capital cost may be under £3,000. There is a running cost because a steady supply of OMR forms has to be bought from the supplier. This cost should be investigated;
- *Mid-range* Generally, swipe card systems are more expensive than OMR. Detailed costs vary widely, depending for example on the number of swipe points required. A typical swipe system will cost in the region of £5,000 for two or three swipe points, rising to £10,000 for a system where there are further swipe points placed around the school. Costs of cards also vary. Bar-coded cards are very cheap; the 20 pence cost of laminating the card with plastic is by far the greatest element. Magnetic cards will cost between £1.50 and £2.50 each; again individual deals with suppliers should be investigated;
- *Expensive* The radio link portable computer, or the portable 'docking' data collector are the most expensive systems, largely because of the high cost per tutor. EARS computer folders cost about £300 each and, presumably, a full installation calls for one per tutor group. There are other costs – for the software, the 'core' computer, the transceivers, wiring and training. It seems that the absolute minimum cost will be £10,000, and a full installation for a medium-sized or large school will cost considerably more.

V. Management issues

Heads and Principals are unanimous that buying the technology is only part of the story. The important thing is to consider the needs of the school. There is also the question of the school's ethos. "Are we the kind of school that wants to work like that?" It is very clear, for example, that some Heads are as committed to the tutor-led registration period as others are to abolishing it. Schools' staff and governors must have their thinking clear on this basic point before committing themselves to heavy expenditure. Two statements, paraphrased from the words of several Heads, illustrate the way that schools differ in approach.

> Part of our responsibility is to educate our pupils for independence. We want to trust them, and give them as much responsibility for their own actions as we possibly can. Thus we are attracted to a swipe card system. We also want to get them down to work as soon as they come into the building, and not waste time with a registration period.

> The tutor is the key to our system, and a vital part of his or her responsibility is looking after attendance. We want the tutor to mark the register carefully each day, talking to the pupils about attendance and punctuality and taking an interest in who is present and who is away. This assures us of accuracy, and tells the pupils that we take attendance seriously. We are eager to use computers to ease the administrative burden, but the swipe card system is definitely not for us.

At Battersea Technology College, for instance, the Principal Michael Clark is hoping to install a limited swipe card system from Hengstler Flextime. However, the Bromcom EARS portable computer system will also be used by tutors as the college develops students' ability to use the swipe card system responsibly.

Bacon's College is also moving gradually to using a swipe card system. Starting in September 1993, the college will have a single computerized registration system with two kinds of input. The sixth form will have swipe cards, while the rest of the school will be registered by computer keyboard entry. Swipe card registration for other year groups will follow later, as will the use of cards for other purposes such as food purchase and the school library.

This flexibility, which is made possible by using INDALO Technology's SIRS (Schools Integrated Registration System) is obviously valuable, enabling the college to make good use of its existing computer network, and to move to swipe cards at a controlled rate.

Many other management and administration issues arise. Some of them are:

1. *Time saving* This is an important selling point for suppliers, particularly of expensive systems, and there is no doubt that speeding up the registration period, or removing it altogether, can make real time savings. Assuming that half the teachers are involved in registration (a conservative assumption), and that it takes 20 minutes a day of their time, ten hours a day could be saved. This is equivalent to two teaching positions.

   Usually, though, schools are not looking to convert the advantage into money by cutting staff. For one thing the morsels of saved time are thinly distributed. Usually, the bonus is taken in extra teaching time;

2. *Loss of the registration period* This is a major issue with swipe card systems. One approach is to look carefully at everything that happens in the registration period and work out how they will be covered if the registration period were to be removed.

   Total loss of the tutor period is not, however, necessary. The swipe card system simply removes the need to have a twice daily start-of-session period. There is freedom to have a floating tutor period in the timetable, or a regular period at the end of the day – which is what happens at Thomas Telford School. Schools often find that tutors lean on the registration routine in their tutor periods, and are not sure what to do when it is removed. There are implications here for schools about reviewing and developing the tutorial role;

3. *Communication and 'Two-way' systems* Removal of the morning registration period has made schools look generally at communication. One interesting development is the introduction of swipe card systems which 'talk back' to the pupil via an illuminated message module on the card reader.

   A pupil swipes in and the module says, perhaps, 'Report to the school office'. On reporting the pupil is given a message, for example 'See Mr Jones at break please' or 'Choir practice at 1.30', which was prepared and typed into the software earlier that day or the previous evening. Blackpool Sixth Form College's own Cosmex swipe card system, which is available from them commercially, does this and Hengstler Flextime's system can also provide a message module facility. The technology for message modules is available, and interested schools should question suppliers about it;

4. *The school office* The Head of St Thomas High School attributes the success of their OMR system, in part, to heavy investment in office staff. All Heads agree on the importance of getting the office end of the operation right. Time after time, when looking at school systems, visitors are introduced to a clerical or administrative worker who is a

key link in the chain – someone who uses the central database regularly and knows it inside out. This role can develop, so that the person gets to know patterns of attendance and can 'sniff out' suspicious absences. The development and continuous improvement of office routines is important because some jobs, such as putting OMR sheets through the machine, become very much quicker if they are regularly performed by the same person;

5. *Allocation of responsibilities* Related to the school office issue is the question of who does the pastoral work related to attendance. Does the attendance clerk telephone the parents of absent pupils, or is this a tutor's job? Who handles, and chases, and looks after, absence notes? Heads demonstrate strongly held, but very different beliefs in these areas. The roles also, in practice, change and develop. It may be, for example, that a registration clerk who regularly sees pupils makes bonds with them and gradually adds a pupil support function to the job. What is important is to keep reviewing all of this, so that there is always clarity and so that, for example, parents are not contacted by two different people on the same day;

6. *Information overload* A sophisticated attendance system could probably tell you which streets in the area produce the best attendees. Do you want to know this? What could you do about it if you knew? You can have almost any information you want. If it is all routinely printed out, the management process will drown in paper. Heads and administrators have to decide what is the minimum necessary information and then let it build up in a controlled way. There will be certain figures and reports that are needed frequently, some that are needed occasionally, and others that are needed rarely, on request. One Head said, "You always have to be saying, Do we need this piece of paper? What are we doing with it when we get it?"

7. *Internal truancy* This is where pupils attend for the beginning-of-session registration, and then 'bunk off' for part of the day. One way of dealing with this is to take a register every lesson and then compare absences with the session register. Some of the computerized systems have provision for this, but it can significantly increase the complexity of the system. An OMR system used for lesson registration will produce a vastly increased flow of OMR forms and printouts. A swipe card system will obviously need many more swipe points for lesson registration than it would need for session registration.

   For this reason, many schools still use a simple manual check on lesson attendance. Technology can still help, either by providing every teacher with a quickly printed list of absentees so that legitimate absence from lesson is visible, or by providing the same facility via the school computer network. The teacher looks at her class, sees that Jim and Rachel are not there, calls up the absence list on the network, and checks whether Jim and Rachel are actually away from school. Or she may directly interrogate the database about Jim and Rachel.

If internal truancy control is an issue, then a great deal of research is needed before deciding to track it with the main computer system. There may be a simpler solution, especially for a school where the problem is not great;

8. *General* All schools find that a computerized registration system is not just an add-on replacement for the existing register. There are so many implications for management, for administration and, not least, for the school's philosophy and ethos, that it often becomes the cause of a major review. Issues such as the role of the tutor, pupil–teacher relationships, and the degree to which students have responsibility for their actions all need to be considered.

VI. Some principles

When choosing a system, the following principles should be borne in mind:

1. Take your time. Once into the Spring term it may be too late to install a system the following September especially if you are starting from scratch with no background knowledge;
2. While keeping an open mind, be clear about the needs and character of your institution;
3. Formulate, and write down, a list of questions for suppliers based on your needs. Be prepared to keep updating these questions as you become more knowledgeable;
4. Ask for the answers to be demonstrated, not just talked about. Watch carefully how easy the tasks are – how many keyboard and/or mouse operations are needed; how helpful are the screens;
5. Ask for the names of institutions where systems are running, then visit them. Take with you a cross-section of people with clerical, management and pastoral experience. Take enough time to do this properly. When a system starts to look interesting, have a meeting back at school to tease out issues, then visit again. On any visit, make sure you are not monopolized by a representative of the supplier. Talk to teachers and to the clerical workers as well;
6. Make sure cost estimates are realistic. Do not forget wiring costs, for example, which are very significant in some installations and which will obviously vary from school to school. Make sure you have included the cost of the computer which runs the system. It may be suggested that an existing machine will take the job on, but very often in practice a dedicated computer is the most appropriate solution. Remember to research and include any staffing costs;

7. What about training and support? What is the supplier offering? What do other customer institutions have to say about the quality of training and support?

8. Will the firm still be supporting you next year and the year after? If not, what are the chances of finding support elsewhere?

9. How flexible is the supplier in response to requests for special features tailored to your own needs? If you need a feature which the system does not seem to offer, how keen is the supplier to make an effort for you?

10. Is it possible to develop a home-grown system? A number of schools have looked at all available systems and decided that for various reasons, including cost, nothing really suits them. An alternative which is open to schools where there is enough programming expertise is to buy the hardware and then write the software in-house, perhaps using a well-tried commercial database as the core. Staff at Blackpool Sixth Form College have already done this, and produced a neat smart card system which has bar code readers with a 'talk-back' message module, linked to a database on the school's Apple-Mac system. Djanogly CTC is looking at building its own commercial system based on a combination of networked PCs and portable input units.

    Another compromise route is to work with a local software house to achieve a tailored solution. Kingshurst CTC's system was developed in this way. One implication of the in-house route is that the Head and Governors must ensure continuity of knowledge and skill as staff come and go;

11. Introduce the system carefully. Most schools advocate a pilot system with one year group or with the sixth form. The existing manual system is often run alongside the new technology for a while, although one Head rejected this approach. "If we were going to take the new system seriously, we were going to use it from the start."

Finally, two fundamental points, made continuously by those who have studied this area.

1. Schools should resist being seduced by attractive technology. The basic mistake, made by many computer buyers, is to go for attractive hardware when what you really need is a solution to your problem;

2. Technology will not of itself improve attendance or cure truancy. What it does improve, often out of all recognition, is the quality of management information about attendance and punctuality. Accurate information is available quickly, in a very clear form.

    What then matters is that the school's management system is capable of acting on the information. Where this happens, then pupils quickly become aware that loopholes have closed up, and the performance indicators do improve. One school with already very good attendance –

several percentage points above the national average – saw it improve by a further 2% after the introduction of a swipe card system.

Appendix A: Suppliers and systems

Supplier	Product description
Blackpool Sixth Form College, High Furlong, Blackpool FY3 7LR Phone 0253 394911 Fax 0253 300459	Cosmex: a swipe card system with talkback message modules. Although originally designed for sixth form colleges, enquiries are welcome from other sectors.
Bromcom Computers Ltd., 417– 421 Bromley Road, Downham, Bromley, Kent BR1 4PJ Phone 081 461 3737 Fax 081 461 3993	EARS: tutor-controlled portable computer with radio link to the school system.
Electronic Reading Systems Ltd, Unit 1, The Business Park, Clifton Road, Shefford, Bedfordshire SG17 5AB Phone 0462 816213 Fax 0462 813891	Tutor-controlled *Keylog* data collector which physically links to or 'docks' with the school system. Also other data collection systems including swipe cards.
ERAS Ltd. 15 Maitland Street, Dundee, DD4 6RW Phone 0382 450364 Fax 0382 202487	Magnetic swipe cards.
Hengstler Flextime Ltd., Nazeing New Road, Broxbourne, Herts, EN10 6SX Phone 0992 443464 Fax 0992 441736	Swipe card system including a message module for two-way communication.
INDALO Technology Ltd., Apex House, London Road, Bracknell RG12 2TE Phone 0883 623337 Fax 0344 301355	SIRS electronic attendance monitoring system which allows daily and lesson registration; data entry through magnetic swipe cards and/or computer keyboard.

Supplier	Product description
Johnson and Pinnock, 84 Cyprus Street, London E2 0NN Phone 081 980 6915	Tutor-controlled registration system using OMR.
Nord Education Ltd, South Point, South Accommodation Road, Leeds LS10 1PP Phone 0532 444577 Fax 0532 449420	AWOL school registration system. Tutor-controlled registration system with bar codes read in the office by a bar code reader.
Real World Services Ltd., 3 Sandicroft Close, Locking Stumps, Birchwood, Warrington WA3 7LY Phone 0925 765432 Fax 0925 765422	CARRA system. Bar-coded swipe cards.
SIMS Ltd., Sims Centre, Abbots Road, Priory Business Park, Cardington, Bedford MK44 3SG Phone 0234 838080	A complete management system which has an attendance module capable of being served by OMR.

Appendix B: Example documentation from computerized systems

This appendix contains the following example documents and printouts. Please note that all student and tutor names and data are fictitious.

1. A register designed to be read by an OMR (Johnson and Pinnock). For each session (morning and afternoon) the form contains two slots per pupil. Tutors mark the form by filling in those slots according to the following code: if the slot on the left is filled in, the pupil is present, if the one on the right is filled, the pupil is absent, and if both are filled in, the pupil was late. So, on our example form, Saida Bethlum is marked present for Monday morning, Peter Dutton is marked absent, and Barry Kirkman is marked late;
2. A printout of weekly attendance from an OMR system. This shows attendance and punctuality of each student in a tutor group for every lesson in a whole week (Johnson and Pinnock);
3. An individual student's record over eight weeks. At the bottom is a slip for a parent to sign (ERAS);
4. A tutor group's record for one week (ERAS);
5. A daily list of absentees, showing year group, tutor group and the reason for absence – codes used are the same as those on previous two forms; 0 indicates that the reason for absence is unknown (ERAS);
6. A printout in the form of a simple graph intended to be included in the student's Record of Achievement File (ERAS).

Schools Registration System Demonstration

Sheet# 001, Page 1 of 1

Printed: 02/09/92 10:25

REGISTRATION 10A

Alan Hazell

NAME			ATTENDANCE															
Alan Hazell REGISTRATION 10A			Mon 9/9 -am-	Mon 9/9 -pm-	Tue 10/9 -am-	Tue 10/9 -pm-	Wed 11/9 -am-	Wed 11/9 -pm-	Thu 12/9 -am-	Thu 12/9 -pm-	Fri 13/9 -am-	Fri 13/9 -pm-	Mon 16/9 -am-	Mon 16/9 -pm-	Tue 17/9 -am-	Tue 17/9 -pm-	Wed 18/9 -am-	Wed 18/9 -pm-
Sally	ABBOT	10A																
Derek	**ALLEN**	**10A**																
Louise	BACARI	10A																
Bob	**BARTLETT**	**10A**																
Tony	BECKER	10A																
Saida	BETHLUM	10A	|															
Nicholas	**BLAKE**	**10A**																
Holden	CAULFIELD	10A																
Ellen	**CERUTTI**	**10A**																
Deborah	CONNELLY	10A																
Barry	COPPER	10A																
Jim	**DALY**	**10A**																
Peter	DUTTON	10A		|													
Malcom	**EASTWOOD**	**10A**																
Judith	EPSTEIN	10A																
Patricia	FELLOWS	10A																
Thomas	**GUNN**	**10A**																
Bill	HIETT	10A																
Barry	**KIRKMAN**	**10A**	|	|													
Godfrey	MATHEWS	10A																
Anne	McDONALD	10A																
Denis	**O'KEEFE**	**10A**																
Jenny	PRICE	10A																
David	**SANDERS**	**10A**																
Patricia	STOLL	10A																
John	TALBOT	10A																
Jacqueline	**UBSDELL**	**10A**																
Robert	ZIMMERMAN	10A																

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Weekly Attendance Report 07/02/93 11:37

Database : Riverview Community School 1992/1993
Tutor group : 10A, Mr A Hazell
Week beginning : Monday, 7 December 1992

		Monday a123456p78	Tuesday a123456p78	Wednesday a123456p78	Thursday a123456p78	Friday a123456p78	P&L (a)	A (b)	L (c)
Sally	ABBOT	//////////	//////////	//////////	//////////	//////////	100%	0%	0%
Derek	ALLEN	//////////	AAAAAAAAAA	AAAAAAAAAA	AAAAAAAAAA	AAAAAAAAAA	20%	80%	0%
Louise	BACARI	//////////	//////////	//////////	/AA///////	//////////	95%	5%	0%
Bob	BARTLETT	L//LLLL///	/////////	/A/AAAA/AA	//////////	//////////	82%	17%	10%
Tony	BECKER	//////////	//////////	//////////	//////////	//////////	100%	0%	0%
Saida	BETHLUM	//////////	//////////	//////////	//////////	//////////	100%	0%	0%
Nicholas	BLAKE	//////////	/AAAA/////	///AA/////	LLL/////AA	//////////	80%	20%	6%
Holden	CAULFIELD	//////////	//////////	//////////	//////////	LLL///////	100%	0%	6%
Ellen	CERUTTI	//////////	//////////	//////////	//////////	//////////	100%	0%	0%
Deborah	CONNELLY	//////////	//////////	//////////	//////////	//////////	100%	0%	0%
Barry	COOPER	AAAAAAAAAA	//////L//	LLL///////	//////////	//////////	80%	20%	13%
Jim	DALEY	//////////	//////////	AAAAAAAAAA	//////////	//////////	80%	20%	0%
Peter	DUTTON	//////////	/AA///////	//////////	//////////	//////////	95%	5%	0%
Malcolm	EASTWOOD	AAA///////	///////AAA	//////////	AAAAAAAAAA	///AAAA///	60%	40%	0%
Judith	EPSTEIN	//////////	AAAAAAAAAA	//////////	//////////	//////////	80%	20%	0%
Patricia	FELLOWS	/////AA///	//////////	//////////	/AA///////	//////////	90%	10%	0%
Thomas	GUNN	//////////	//////////	AAAAAAAAAA	//////////	AAA///AAA	70%	30%	0%
Bill	HIETT	AAALL/////	LAA///////	//////////	LLL///////	AAA//AAAAA	75%	25%	13%
Barry	KIRKMAN	//////////	//////////	//////////	//////////	AAA//AAAAA	85%	15%	0%
Godfrey	MATTHEWS	//////////	//////////	//////////	//////////	AAA///AAA	90%	10%	0%
Anne	McDONALD	//////////	//////////	//////////	//////////	//////////	100%	0%	0%
Denis	O'KEEFE	//////////	//////////	//////////	//////////	//////////	100%	0%	0%
Jenny	PRICE	//////////	//////////	//////////	//////////	//////////	100%	0%	0%
David	SANDERS	//////////	//////////	//////////	//////////	//////////	100%	0%	0%
Patricia	STOLL	AAAAAAAAAA	//////////	//////////	//////////	//////////	80%	20%	0%
John	TALBOT	AAAAAAA///	//////////	//////////	//////////	//////////	85%	15%	0%
Jacqueline	UBSDELL	//////////	//////////	//////////	//////////	//////////	100%	0%	0%
Robert	ZIMMERMAN	//////////	AAAAAAAAAA	AAA//AAAAA	/////LL///	/////AA///	60%	40%	3%

Tutor Group Attendance Summary

Lesson Coverage and Punctuality

Averages of columns a, b and c.

(a) Lesson time attended (P or L mark)	86.0%
(b) Lesson time absent	14.0%
(c) Lessons/Registrations marked Late	1.8%

Registration (am/pm only)

Present (marked P or L)	87.1%
Absent (Authorised)	0.0%
(Unauthorised)	0.0%
(Not qualified)	12.9%

Attendance Codes

. No mark given	
/ Present	
A Uncoded Absent	
L Late to class	
- Unregistered	
Z Late after reg	
U Unexplained	
X Unauth Expl'nd	
c Other circ's	
e Excluded	
g Illness/'sick	
h Family holiday	
i Interview	
j School journey	
m Medical/dental	
p Sport/Activity	
r Religious Obsv	
s Study leave	
w Work exp.	
b P/T off site	

Brooke College

ATTENDANCE RECORDS

Student: **A. Denning** **1992–3 Term 2**

Group: **DHM**

Week Beginning:	Mon		Tue		Wed		Thu		Fri	
5/10	H	H	1	1	1	1	1	1	1	1
27/10	1	1	1	P	1	1	1	1	1	1
2/11	1	1	1	1	1	1	1	1	1	1
9/11	1	1	1	1	1	1	1	1	1	1
16/11	1	1	1	P	1	1	1	1	1	1
23/11	1	1	1	1	1	1	1	1	1	1
30/11	1	1	1	1	1	1	1	1	1	1
7/12	1	1	1	1	M	M	1	1	1	1

B	Receiving part-time and/or temporary education off-site
C	Other circumstances (to be specified)
E	Excluded for a fixed or indefinite period
H	Holiday
I	Attending interview
M	Medical/dental
P	Approved sporting activity
R	Day of religious observance
S	Study leave
W	Work experience
U	Unauthorised absence

Please note that records for the last week of term will be included on next term's report

I confirm that the attendance pattern indicated above is accurate

Signed ..... Date .....

Comments .....

.....

.....

.....

Brooke College

ATTENDANCE RECORDS

Tutor Group DHM **Week Beginning 11/1/93**

	Mon		Tue		Wed		Thu		Fri	
Helen Booth	P	P	1	1	1	1	1	1	1	1
John Blower	1	1	1	H	1	1	1	1	1	1
Susan Cullen	1	1	1	1	1	1	1	1	1	1
Daniel Devine	1	1	1	1	1	1	1	1	1	1
Michael Evans	1	1	1	M	1	1	1	1	1	1
Wendy French	1	1	1	1	1	1	1	1	1	1
Hilary Moore	1	1	1	1	1	1	1	1	1	M
Mark Neene	1	1	1	1	1	1	1	1	1	1
Kay O'Keefe	1	1	1	1	1	1	M	1	1	1
Jitash Patel	1	1	1	1	1	1	1	1	1	1
Derek Pitchford	1	1	1	1	P	P	1	1	1	1
Ronah Rees	M	1	1	1	1	1	1	1	1	1
Graham Robinson	1	1	1	1	P	P	1	1	1	1
Samuel Roper	1	1	1	1	1	1	1	1	1	1
Jacqueline Shah	1	1	1	1	1	1	1	1	1	1
Mary Smith	1	1	1	1	P	P	1	1	1	1
Gordon Williams	1	1	1	1	P	P	1	1	1	1

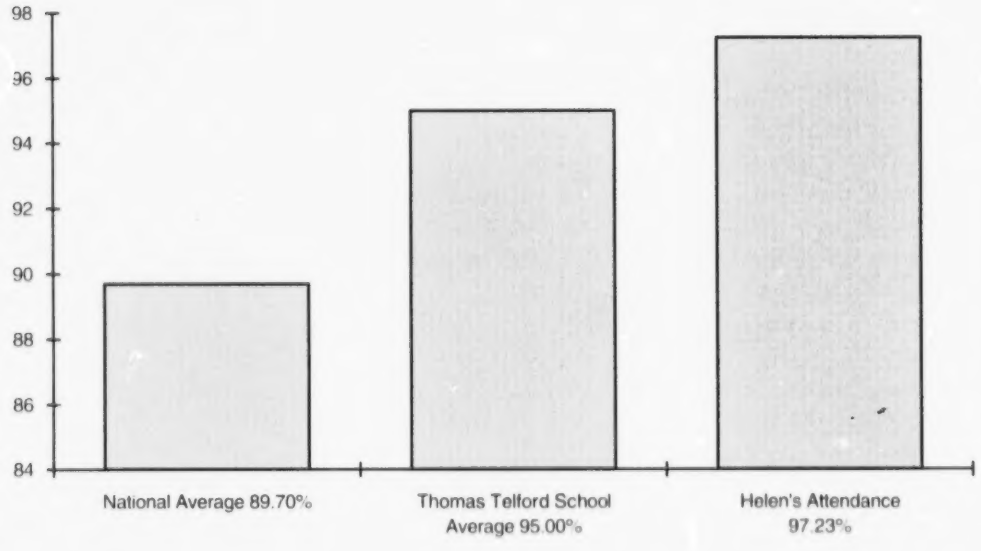
B Receiving part-time and/or temporary education off-site
C Other circumstances (to be specified)
E Excluded for a fixed or indefinite period
H Holiday
I Attending interview
M Medical/dental
P Approved sporting activity
R Day of religious observance
S Study leave
W Work experience
U Unauthorised absence

Signed ..... Date .....

Absent Students **10/3/93** **8:48 am**

Jane Arbiter	7	HJY	0
Helen O'Connell	7	FTG	0
Gregory Purchin	7	HJY	M
Wendy Trent	7	LOK	P
David Trotter	7	LOK	0
Grant Ashby	8	FBH	0
Frederick Broome	8	FBH	0
Joseph Brown	8	FBH	M
Beverly Morely	8	FBH	0
Susan Chater	9	DT	0
Sheila Davies	9	DT	0
Thomas Davies	9	ERP	M
Claire Williams	9	ERP	0
Violet Dervish	10	WDC	0
Malcolm Slater	10	WDC	P
Frances Dowd	11	FTH	S
Timothy Griffith	11	FTH	S
Dale Quinn	11	FTH	S
Stephen Rosser	11	FTH	S
Gail Underwood	11	FTH	S
Gary Frip	12	WE	E
Kathy Pringle	12	WE	0
Gemma Wheatley	12	WE	E

Attendance



Punctuality

100%

Student's Name: **Helen Smith**

Personal Tutor: **Mrs Adams**

Appendix C: The legal requirement

The arrival of technology meant that the law covering school registration had to be changed. At the same time, the government placed various attendance reporting obligations upon schools.

The relevant order is *The Education (Pupils' Attendance Records) Regulations 1991*. This made four points:

1. That from 1 August 1991, schools with day pupils had to distinguish in their registers between authorized and unauthorized absences of pupils of compulsory school age;
2. That from the same date schools were allowed to keep registers by means of a computer. Certain safeguards (see below) were stipulated;
3. That from 1 August 1992, prospectuses and annual reports had to include information on rates of unauthorized absence;
4. If a school decides to use computers to maintain its attendance or admission register, the Governors have to register as data users under the Data Protection Act 1984.

The regulation permitting computerized registers stipulates some safeguards:

1. There must be an audit trail – that is to say, the original entry and any subsequent corrections should be distinguishable. The original entry cannot simply be amended. On print-out, the original entry and any corrections have to appear in chronological order;
2. A print of the attendance register must be made at least once a month;
3. Attendance printouts must be bound in annual volumes and kept for three years;
4. A print out of the admissions register must be made at least once a year.

These safeguards – which keep computerized registers in line with the requirements for manual registers – are to ensure the integrity of the register as a piece of evidence in any legal proceedings. The relevant DFE Circular is 11/91, available from Schools 2 Branch at the DFE, Sanctuary Buildings, Great Smith Street, London SW1P 3BT.

Further reading

Computerisation of attendance and admission registers: DFE requirements, The National Council for Educational Technology (NCET), Information Sheet MAN 6.32, March 1993.

This short information paper contains basic information and a list of suppliers. Available from: NCET, Sir William Lyons Road, Science Park, Coventry CV4 7EZ.

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